

Chapter 1: System configuration

This chapter explains how to configure a basic Interactive Voice Response (IVR) system and covers the following topics:

- accessing the System Configuration window
- allocating sufficient disk space for the voice prompts
- defining node characteristics
- configuring voice channels
- monitoring the IVR system

Accessing the System Configuration window

Access the System Configuration window from the Application Processor console as shown in Figure 1-1. The following procedures show you how to use the console.

Figure 1-1
Meridian IVR login window



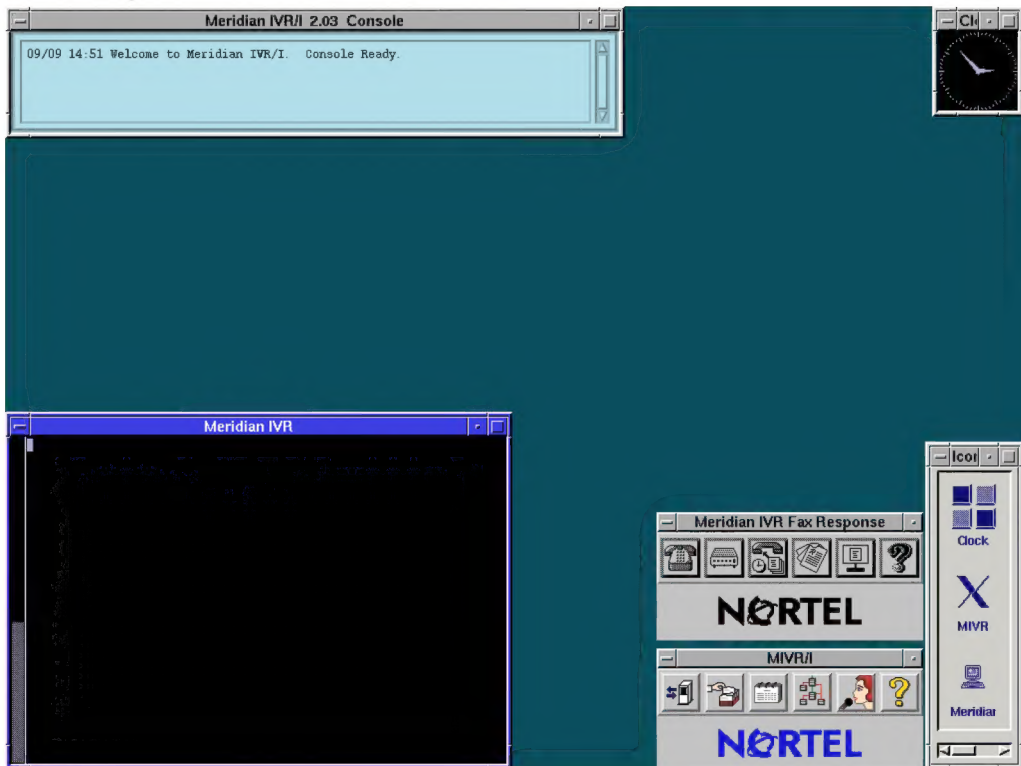
Procedure 1-1 **Accessing the System Configuration window**

- 1 To log into the system, type **vad** in the console login box, and press <Enter>.
- 2 Type **vad1** in the password box, and press <Enter>.

Note: For system administrators, type **admin** at the console login prompt, and **admin1** in the password box.

You are now logged in to the Meridian IVR system. See Figure 1-2 for an illustration of the Meridian IVR MMI desktop.

Figure 1-2
MMI desktop for vad or root accounts



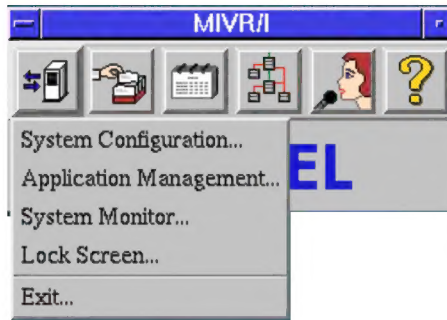
On the Meridian IVR GUI desktop, a series of smaller “windows” appear. Use the Meridian IVR main menu, shown in Figure 1-3, to create, run, and manage Meridian IVR applications.

Figure 1-3
Meridian IVR main menu



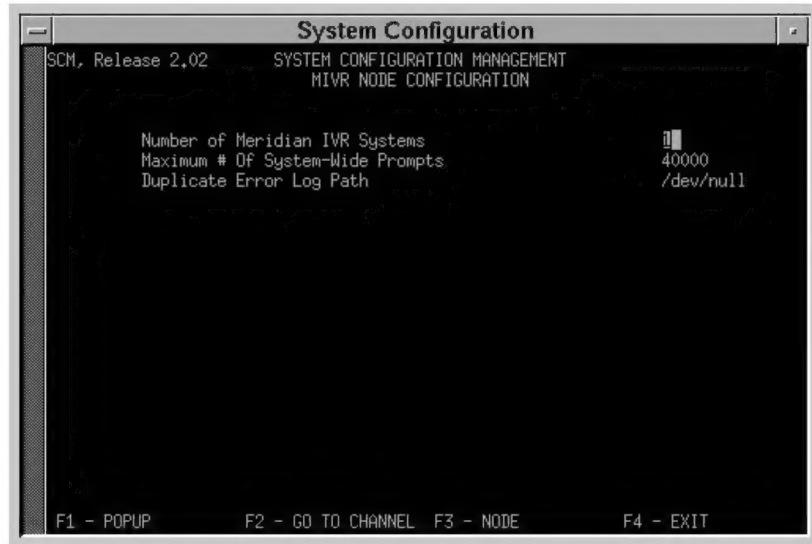
- 3 Each menu bar option shown in Figure 1-3 displays a pull-down menu.
All the channel and system configuration is performed in windows available through the System Administration icon.
- 4 To set up or modify your Meridian IVR system configuration, click on the System Administration icon with the left mouse button to display the pull-down menu (see Figure 1-4).

Figure 1-4
System Administration pull-down menu



- 5 From the menu, select the System Configuration option to display the System Configuration window (see Figure 1-5).

Figure 1-5
System Configuration window



ATTENTION!

Choose your initial configuration settings carefully to reduce the need to make changes. If you need to change any of the configuration settings after you start Meridian IVR, you must stop all applications, unload them, then stop Meridian IVR.

Determining system resource requirements

Before you configure Meridian IVR, consider the system resources that you need such as storage space for the voice files (messages) and channel configuration requirements.

Mailboxes

Meridian IVR applications require a Meridian Mail account, or mailbox, to store voice files. More than one application or voice channel can share the same mailbox. If they use the same voice files, they *must* share the same mailbox.

Each configured IVR channel uses one mailbox determined by the administrator. All IVR channels should be configured to use the same mailbox, but this is not mandatory.

Meridian IVR voice files

Meridian IVR plays and records voice data in voice files residing in Meridian Mail. Meridian IVR has two types of voice files, described in the following paragraphs. For further information about voice files, refer to the *Meridian ACCESS Developer's Guide* (NTP 555-7001-316).

Voice message files

These files store voice messages recorded by Meridian IVR. One file stores up to 14 minutes (840 seconds) of sound. You can address and submit the file to the Meridian Mail voice messaging system for delivery.

Voice segment files

These files store all Meridian IVR text and voice prompts. One file can contain up to 1000 voice segments (prompts). Each voice segment in the file consists of a recorded voice, a descriptive name and title, and a text field that stores the script of the recorded voice prompt.

The recorded voice prompts are usually brief (from less than a minute to a maximum of five minutes). Recorded prompts, or segments, can consist of sentences, words, or syllables. Prompts are typically concatenated (chained together) during playback.

Refer to Chapter 3, “Managing prompts,” for a description of Meridian IVR prompts.

Allocating prompt and message numbers

During configuration, Meridian IVR requires that you allocate the maximum number of prompts that you plan to have on your system. You should set the maximum number of prompts to allow for the addition of other application prompts and/or languages. The default number of prompts is 2000.

Number ranges are set aside for the groups of prompts that you are going to use. The range is called a language offset. All prompts stored within the range numbered from 0 to 1999 become system-wide prompts. System prompts include numbers and dates which are used by the Meridian IVR system.

Table 1-1 shows an example of the ranges set aside for system prompts on a Meridian IVR system. If the default number of system prompts is left at 2000, the system has space for four languages.

Table 1-1
System prompt information

Language	Number of system prompts per language	Prompt maximum per language	Language offset
English	321	1000	0 - 999
French	322	1000	1000 - 1999
German	-	1000	2000 - 2999
Spanish	-	1000	3000 - 3999

Note: The value selected for the maximum number of voice segments affects storage space which is allocated through Meridian Mail.

Meridian IVR can also assign a number to each message that is left in a Meridian IVR mailbox. When assigning a number to a message, Meridian IVR uses numbers outside the range specified for the voice prompts. For example, if the number you enter for maximum prompt storage is 3500, then voice messages have an assigned number starting with 3500.

In this way, Meridian IVR differentiates between mailbox items that are messages and items that are Meridian IVR prompts.

Multilingual requirements

The multilingual capabilities of Meridian IVR significantly increase the number of prompts you must allocate. If you allocate a total of 3000 segments for prompts in one language, you need to allocate 6000 for prompts in two languages, or 9000 for three languages.

You must determine the extent to which the LANG cell is to be used in your applications before you allocate numbers for the prompts. For more information on the LANG cell, see the *Application Development Guide*, NTP (555-9001-310).

Meridian Mail disk space

Because Meridian IVR stores all voice prompts and messages on the Meridian Mail system, you should ensure that the mailboxes you build for Meridian IVR are configured with sufficient voice storage. When configuring a Meridian IVR system with a single mailbox, voice message files and voice segment files which are application dependent typically require 90 minutes of disk space on Meridian Mail.

On multi-node Meridian Mail systems, you can improve performance by setting up multiple mailboxes on different Meridian Mail nodes (preferably nodes whose voice channels are used by Meridian IVR).

Note: Storage requirements should be discussed with the application developer. To determine the details on system sizing, refer to *Meridian Mail Site and Installation Planning* (NTP 555-70x1-200).

Identifying voice processing nodes and prompts

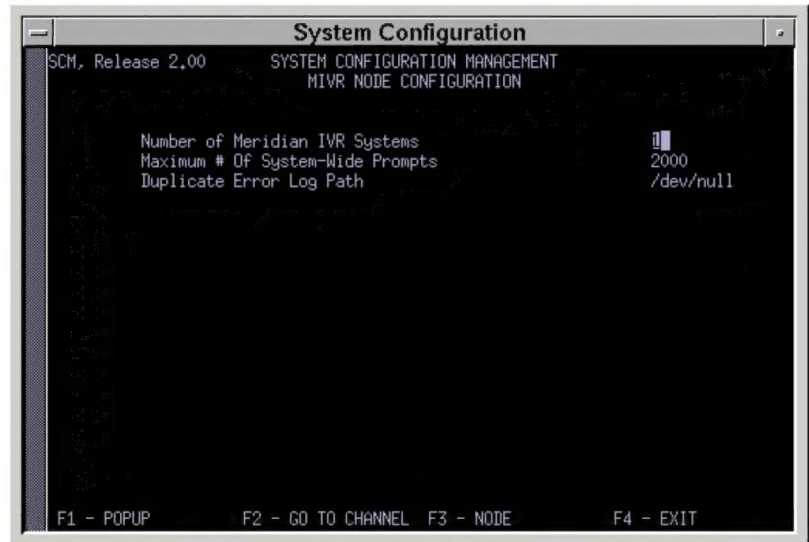
From the System Configuration window, you configure the number of voice processing systems (Meridian Mail) and the number of prompts for your Meridian IVR system.

Procedure 1-2 Setting the number of prompts

- 1 From the System Administration menu, select the System Configuration option.

The MIVR Node Configuration window appears, as shown in Figure 1-6.

Figure 1-6
The Node Configuration window



The following is an explanation of the fields in this window:

The Duplicate Error Log Path field allows you to designate another transaction path for log messages. This can be a printer or a com port.

The Maximum # Of System-Wide Prompts field determines the boundaries for the prompt and message numbers for all applications on the system. For more information on prompt and message management, refer to Chapter 3 "Managing prompts."

The Number of Meridian IVR Systems field identifies the number of Meridian IVR systems.



CAUTION! **Risk of system failure**

The Number of Meridian IVR Systems field is always set to the default value 1. Do not modify this value.

ATTENTION!

Once you choose values for the Maximum # Of System-Wide Prompts parameter, you determine the boundaries for the prompt and message numbers stored on the system for all applications, present and future. Prompt and message management is discussed further in Chapter 3 “Managing prompts.”



CAUTION! **Risk of system interruption**

After you start using Meridian IVR, you should use caution in changing the parameters for the number of system-wide prompts. If the threshold is increased, you are not able to access some messages. If the threshold is decreased, you are not able to address some prompts.

- 2 To edit the Maximum # Of System-Wide Prompts field on this window, use the arrow keys, <Tab> key, or <Enter> key to move the cursor to that field, and enter the new value.

Note: The valid values for the Maximum # Of System-Wide prompts are 1 to 55 296. The default value is 2000.

- 3 Press <Enter> to make Meridian IVR accept the new value.

The system checks the validity of the value. If your entry is invalid, the terminal beeps and displays a message telling you so. If the entry is valid, the cursor advances to the next field.

- 4 To return to the configuration window without exiting, use the <Escape> key. To exit the System Configuration window, press <F4>.

The Save changes? window appears.

If you want to save the changes you have made, press <Enter>, or press <F3> to accept the Yes default. If you do not want to save the changes, use the arrow keys to highlight the No default and press <Enter>, or press <F4>.

Node characteristics

The two fields that each node must define are the Maximum Number of Channels and the Total Channels Configured.

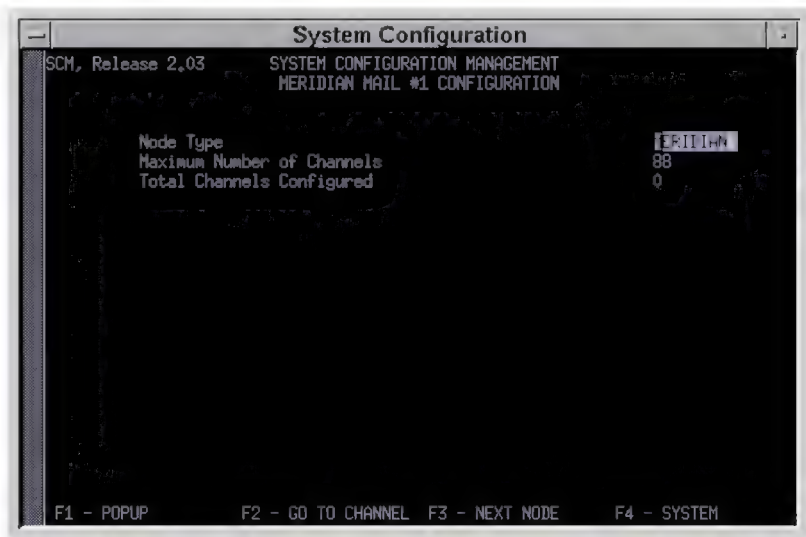
Procedure 1-3

Defining node characteristics

- 1 From the System Configuration Management window (see Figure 1-6), press <F3> to move to the Node Configuration window.

The Node Configuration window appears for node 1, as shown in Figure 1-7.

Figure 1-7
Node Configuration window



Note: The Total Channels Configured field indicates the number of channels that are configured specifically for Meridian IVR. Its valid value is hardware-dependent, and its default value is 0.



CAUTION!

Risk of performance degradation

The Maximum Number of Channels field identifies the maximum number of channels that can be configured for a particular node. It is very important for this field to reflect the number of Meridian IVR channels configured from the Meridian Mail side (that is, if only four channels have been configured to run Meridian IVR on Meridian Mail, this value should be 4).

- 2 Once you make changes to the values, select one of the following function keys:
 - <F2> to go to any channel in the system
 - <F3> to go to the next node in the system
 - <F4> to return to the System Configuration window

Configuring channels

To define operational characteristics for each voice channel configured for Meridian IVR, follow these steps:

Procedure 1-4

Choosing channels for configuration

- 1 From either the System Configuration window or the Node Type Configuration window, press <F2>.

Meridian IVR displays the following prompt at the bottom of the window:

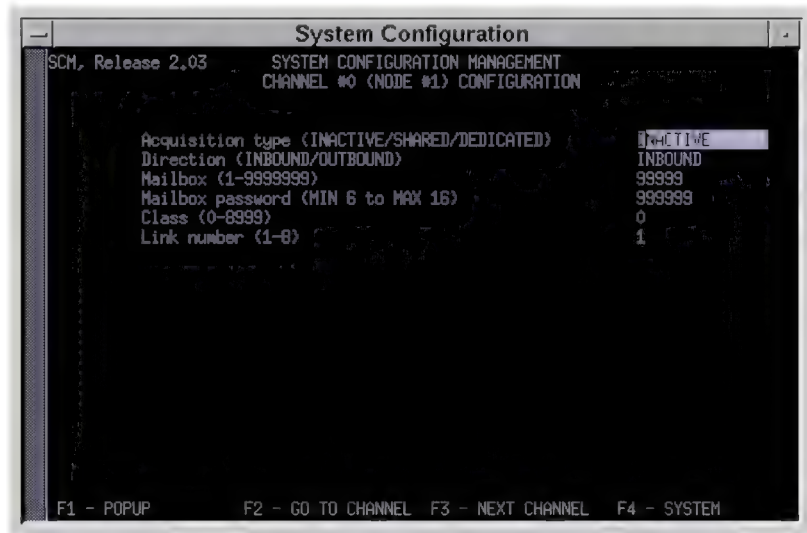
Enter CHANNEL Or NODE:CHANNEL
(Ranges may be used. For example, 1:16-32): 1:0

- 2 Using the format NODE:CHANNEL, enter a channel number then press <Enter>.

Note: The entry 2:3 indicates that you want to define characteristics for channel 3 on node 2. If you specify only the channel digit, Meridian IVR assumes that you want to edit that channel on node 1.

Meridian IVR displays the Channel Configuration window as shown in Figure 1-8.

Figure 1-8
Channel Configuration window



Channel configuration values

The following section explains each of the six fields displayed on the Channel Configuration window (see Figure 1-8). As well, their valid and default values are listed.

Acquisition type (INACTIVE/SHARED/DEDICATED)

Specifies if the channel is used by Meridian IVR only (dedicated), or if the channel is used with other Meridian Mail applications, such as voice mail or voice menus (shared), or if the channel is taken off line (inactive). A dedicated channel provides better system performance than a shared channel because it requires less administrative housekeeping from Meridian Mail. Up to 24 Meridian Mail channels per 9600 baud ACCESS link can be used in shared mode by Meridian IVR. In dedicated mode, 48 Meridian Mail channels per 9600 baud ACCESS link can be used.

Valid values: INACTIVE, SHARED, DEDICATED

Default value: DEDICATED

ATTENTION!

INACTIVE channels consume a Meridian Mail resource. You cannot, however, load an IVR application on a channel marked as INACTIVE.

Direction (INBOUND/OUTBOUND)

Each channel must be designated as either inbound or outbound only. Both channels permit transfer and conference features. Incoming phone calls are received on inbound channels, whereas outgoing phone calls are initiated on outbound channels. To perform outdialing, an application must have a channel configured as outbound. As well, outbound channels cannot be used in conjunction with shared port allocation.

Valid values: INBOUND, OUTBOUND

Default value: INBOUND

Mailbox

Specifies the mailbox used by the channel.

Valid values: 1–9999999

Default value: None

Mailbox password

Specifies the password that permits access to the mailbox associated with this channel. The minimum number of characters needed is 6 and the maximum number of characters is 16.

Valid values: 1–9999999

Default value: None

ATTENTION!

To help ensure that your system is secure, choose different numbers for your mailbox and your mailbox password.

Class

Identifies a group of one or more channels on Meridian Mail.

Valid values: 0–8998

Default value: same number as channel

Link number

The ACCESS link number on which the IVR channel communicates.

Valid values: 1–8

ATTENTION!

Only links cabled between the IVR system and Meridian Mail accept calls. Using other link values within the valid range does not generate an error during configuration.

As shown in Figure 1-3, the Channel Configuration window displays a list of six fields.

Procedure 1-5

Configuring individual channels

- 1 To change either the Acquisition type or the Direction, use the arrow keys to move to that field.
- 2 Press <F1> to display the pop-up window that lists the available values.

Note: You can cancel the window by pressing <Esc>.

- 3 Using the arrow keys, select the appropriate value and then press <Enter>.
- 4 To enter the Mailbox, Mailbox password, Class, or Link number, use the arrow keys to move to the field, and enter the numbers by using the keypad.
- 5 When you have finished configuration changes for this channel, press one of the following function keys:
 - <F2> to go to any other channel in the system
 - <F3> to go to the next channel on the current node
 - <F4> to return to the System Configuration window

Exiting System Configuration

Once values for any of the channels have been changed, the changes must be saved before exiting the System Configuration option.

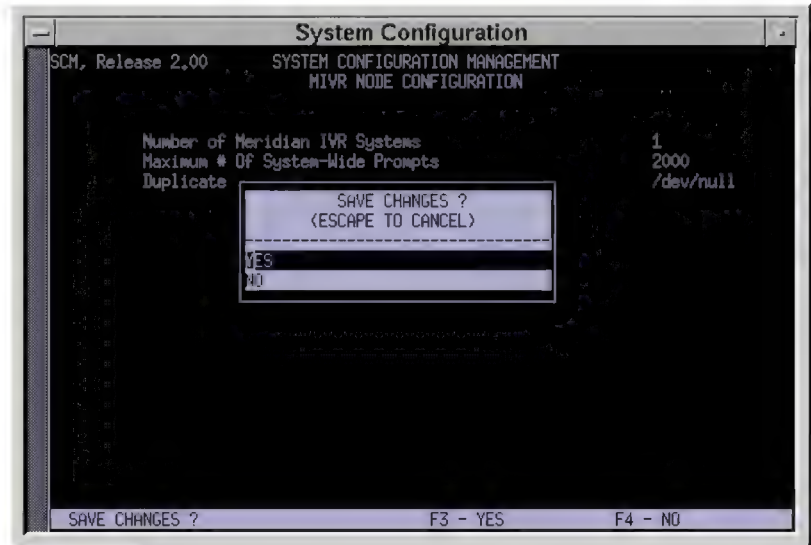
Procedure 1-6

Saving and exiting the System Configuration

- 1 From the System Configuration Management window, press <F4> to exit.

Meridian IVR displays the Save Changes? pop-up window (see Figure 1-9).

Figure 1-9
Save Changes pop-up window



- 2** If you want to exit System Configuration and save your configuration changes, select Yes and press <Enter>, or press <F3>.

If you want to exit System Configuration without saving your configuration changes, select No and press <Enter>, or press <F4>.

In either case, you exit System Configuration, and the Meridian IVR interface is redisplayed.

If you decide not to exit System Configuration, press <Esc> to abandon the Save Changes? pop-up window.

Establishing new configurations

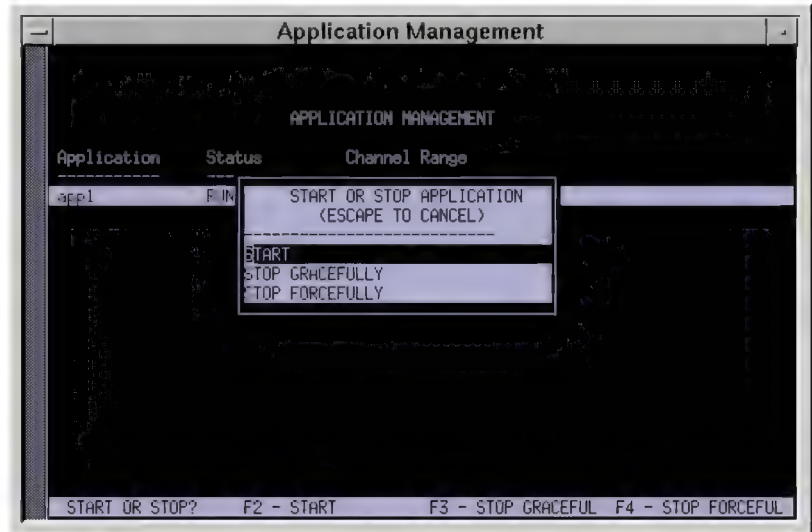
When you start the applications processor, if correctly configured, Meridian IVR is automatically started in the background. However, once you have configured the node and channels (or whenever you modify the configuration settings), you must restart Meridian IVR; otherwise, the previous settings are in effect.

Procedure 1-7 Restarting Meridian IVR

- 1 From the Application Management window (with at least one application running), press <F2>.

The pop-up menu as shown in Figure 1-10 appears.

Figure 1-10
Application Management pop-up menu



- 2 Select Stop Gracefully from the pop-up window.
- 3 Point to anywhere on the desktop, click on the right mouse button, then select the MIVR reset option from the root background menu.

Note: Meridian IVR stops the applications that are running with minimal effect to users on a live system. Callers are redirected to the revert directory number (DN) until the Meridian IVR core (application executing) software reset is complete.

A pop-up window appears asking you to confirm the Meridian IVR reset.

- 4 Click on Yes.

The Meridian IVR Console window displays a series of messages as the Meridian IVR software is stopped, restarted, and becomes fully operational again. It takes several minutes to restart the software.

- 5 Restart all stopped applications. Certain applications can restart automatically.

Testing the ACCESS link

When Meridian IVR starts, the ACCESS link is synchronized. You can test the communication link between the application module and Meridian Mail by using the Access Diag. option. You can view various statistics about the link, and restart the link, if necessary.

Procedure 1-8

Testing the ACCESS link

- 1 Access the Access Diag. option by pointing anywhere on the desktop and clicking on the left mouse button.
A root background menu appears.
- 2 Select the Access Diag. option.
- 3 Enter Link Number (1 by default). Valid link numbers are 1 to 8.

Meridian IVR displays the System Status window as shown in Figure 1-11 that indicates the current status of the ACCESS link.

Figure 1-11
System Status window

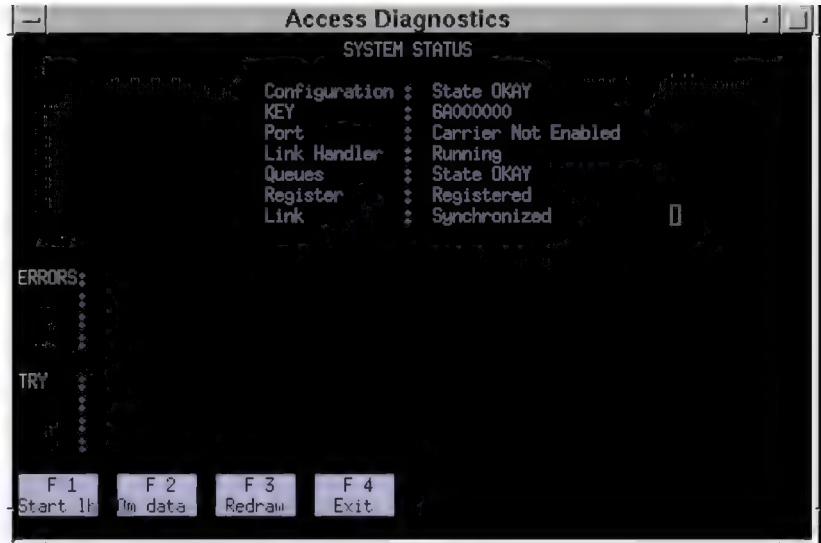


Table 1-2
ACCESS link function keys

Key	Function	Description
<F1>	Start lh	Starts the ACCESS link handler.
<F2>	Om data	Displays various operational measurements.
<F3>	Redraw	Refreshes the window.
<F4>	Exit	Returns to the Meridian IVR interface.

For further information about this tool and the Meridian ACCESS link, refer to the *Meridian IVR Installation Guide* (NTP 555-9001-210), or contact your Northern Telecom (Nortel) service representative.

The System Monitor

Meridian IVR also allows you to monitor your voice system/application processor configuration by using the graphical System Monitor. The System Monitor tracks the current channel activity and presents the current system configuration.

Procedure 1-9 Monitoring channel status

- 1 From the System Administration pull-down menu, select the System Monitor option.

Meridian IVR displays a main administration window, identifying your system components, as shown in Figure 1-12.

Figure 1-12
System Monitor window

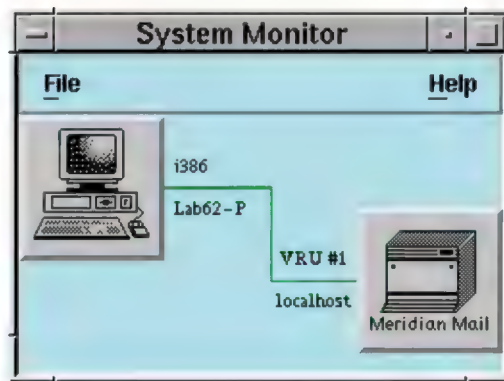


Table 1-3
Parts of the System Monitor window

Characteristic	Description
Menu bar	Contains File and Help options. Select these options to access pull-down menus of related functions.
Application processor (MIVR) icon	Represents the Meridian IVR application module.
Application processor identifier	Identifies the Meridian IVR application module, including the hardware type and system name. Figure 1-12 specifies that the Meridian IVR system, which is named "lab 62-P", runs on an Intel 386.
Node identifier	Identifies the node by ID number and name. Figure 1-12 specifies that the Meridian IVR system includes a node designated as VRU #1 and named "localhost."
Meridian Mail icon	Represents the Meridian Mail system.

Channel activity

Using the Meridian IVR system monitor, you can monitor the channel activity on the system.

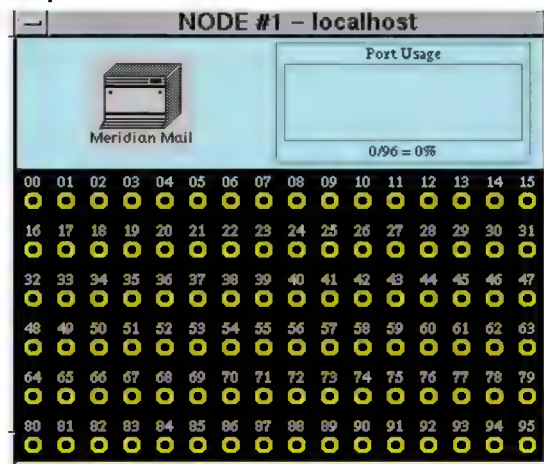
Procedure 1-10 **Displaying channel activity**

- 1 From the System Monitor window, click on the Meridian Mail icon.

The node window appears showing real time activity on the node's voice channels. The status lights indicate whether a channel is active, idle, or unavailable for incoming calls (see Figure 1-13).

- 2 Click on the Meridian Mail icon to return to the System Monitor window.

Figure 1-13
Sample node window



Parts of the node window

The node window is comprised of several distinct parts which provide relative information in real time (that is, the information displayed on this window changes when the activity on the system changes).

Table 1-4
Parts of the node window

Characteristic	Description
Node icon	Identifies the node type.
Channel board	Displays a simulated board of lights for each voice channel on the node.
Filled yellow circle	Indicates that the channel is active with an inbound call.
Filled gray circle	Indicates that the channel is active with an outbound call.
Hollow yellow ring	Indicates that this channel is designated for inbound calls.
Hollow gray ring	Indicates that this channel is designated for outbound calls.
No light	Designates an unavailable channel; the channel is either reserved for outdial purposes or does not exist in the system. Either way, an inbound call can never be accepted.

When Meridian IVR is started, the ACCESS link is synchronized automatically. When Meridian IVR is stopped, the state of the link changes to “unknown.” If you start the ACCESS link handler from the System Status window using the <F1> key, the window may be disoriented due to synchronization.

Procedure 1-11

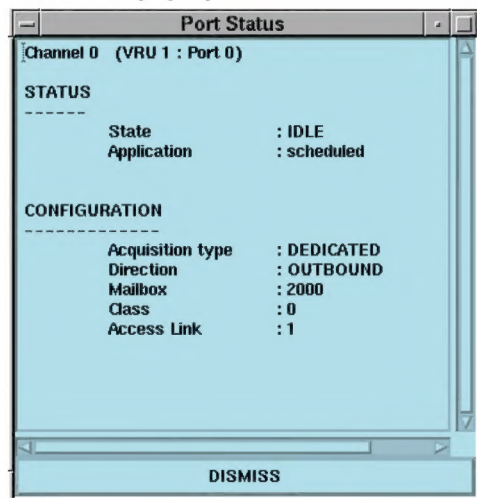
Monitoring a specific voice channel

- 1 Click on the channel you want to view with the left mouse button.

The System Monitor displays the Port Status pop-up window (See Figure 1-14). This window is not in real time. This window illustrates the parameters you configured for a particular channel; in this case the channel is 0.

Figure 1-14

Port Status pop-up window



- 2 To close the Port Status pop-up window, click on Dismiss with the left mouse button.
- 3 Then, to exit the Node pop-up window and return to the System Monitor Administration window, click on the Node toggle button.

Port Status Values

This section explains each of the seven fields displayed on the Port Status pop-up window. As well, their valid values are listed.

State

This field describes channel activity. Active channels indicate that an application has been started and that it accepts inbound calls. Idle channels are either actively processing a call or have been busied out to prevent new calls from arriving.

Valid values: IDLE, ACTIVE, BUSIED OUT, NOT AVAILABLE

Application

Names the application running on the channel, the application that is currently loaded, if any, and the ID number assigned to the application.

Valid values: ACTIVE, INACTIVE, IDLE, BUSY, MAKE BUSY

Acquisition type

Identifies whether the channel is dedicated to Meridian IVR or shared with other Meridian Mail applications.

Valid values: SHARED, DEDICATED

Direction

Identifies whether the channel accepts incoming or outgoing calls.

Valid values: INBOUND, OUTBOUND

Mailbox

Specifies the mailbox number used by the channel.

Class

Identifies a group of channels on Meridian Mail.

Access link

This is the link between Meridian Mail and Meridian IVR.

Exiting the System Monitor

Procedure 1-12

Exiting the System Monitor

- 1 In the System Monitor window, select the Exit option from the File pull-down menu.

The System Monitor window closes.